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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application/Control Number: 10/034,224
Art Unit: 2618

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Application Number: 10/034,224
Filing Date: December 28, 2001
Appellant(s): WAGNER ET AL.

Jonathan M. Harris

This is in response to the appeal brief filed July 1, 2008 appealing from the Office action mailed March 26, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| | | |
|---------|--------------|-----------|
| 6259932 | Constien | 7-10-2001 |
| 6181284 | Madsen et al | 1-30-2001 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a repetition of the rejections found in non-final Office Action mailed March 26, 2008.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Constien (US Patent No 6259932 B1) and Madsen et al (US Patent No 6181284 B1).

Regarding claims 1, 4-5, Constien discloses a computer system (figs. 1-3), comprising: a processor; a display (13 of figs. 2-3) coupled to said processor (col. 6, lines 11- 49; 9 of figs. 1-3; col. 2, lines 26-65; col. 4, lines 2- 46; col. 6, line 53- col. 7, line 54).

However, Constien does not specifically disclose the features of a display having an external casing in which a plurality of externally exposed recessed cavities are provided, at least one recessed cavities is adapted to receive a radio module and another recessed cavity is adapted to receive an antenna module.

On the other hand, Madsen et al, from the same field of endeavor, discloses an antenna system for a portable computer that allows communication between a portable computer and a wireless communication system. The antenna is placed in a use position when the computer is opened to facilitate wireless communication and the antenna is placed in a storage position when the computer is closed (col. 3, line 40-col. 4, line 59). Madsen et al shows in figure 5, the antenna is connected by a fastener to the base of the computer. The fastener is attached to a side wall of the recess. The fastener is an RF connector that attaches the antenna to the adaptor which provides the interface between the computer and the antenna. The antenna of the antenna

system protrudes through the opening and is generally positioned perpendicular to the upper surface of the base (col. 6, line 48-col. 17, line 51; col. 9, line 35-col. 10, line 28).

Alternatively, the antenna may be constructed so that it is normally in the first position and it is attached to the computer such that it protrudes normal to the upper surface of the base when the computer is in the open position (figs. 6, 8-9; col. 10, line 50- col. 11, line 50). The radio module and antenna module can be connected via a suitable RF coaxial cable that is included within the display's casing. The display can have cavities for one or more radios and one or more antenna modules. Accordingly, the display can have a plurality of radio/antenna combinations thereby concurrently providing the electronic device with multiple wireless communication capabilities (col. 7, lines 12-51; col. 8, lines 5-14). It is considered that this portable laptop computer unit contains a display that has an external casing in which a radio and an antenna module are received. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Madsen to the communication system of Constien in order to provide a portable computer having a base unit with a recess sized and configured to receive the antenna.

Regarding claim 2, Constien as modified discloses a computer system (figs. 1-3), wherein said radio module and antenna module are flush with the outer surface of the casing (col. 6, lines 36-62).

Regarding claim 3, Constien as modified discloses a computer system (figs. 1-3), wherein said radio module is electrically connected to said antenna module via a conductor contained within said display casing (col. 6, lines 22-31).

Claim 6 contains similar limitations addressed in claims 1, 4-5, and therefore is rejected under a similar rationale.

Regarding claim 7, Constien as modified discloses a computer system (figs. 1-3), wherein a radio module is electrically connected to said antenna module via a conductor contained within said display casing (col. 6, lines 22-31).

Regarding claim 8, Constien as modified discloses a computer system (figs. 1-3), wherein a radio module is electrically connected to a plurality of antenna modules via a conductor contained within said display casing (col. 6, line 53- col. 7, line 54).

Regarding claim 9, Constien as modified discloses a computer system (figs. 1-3), wherein said plurality of radio modules is two radio modules and said plurality of antenna modules is three antenna modules (col. 6, line 53- col. 7, line 54).

Regarding claim 10, Constien as modified discloses a computer system (figs. 1-3), wherein said radio module couples to other electronics in said computer system via a digital serial bus (col. 6, lines 15- 62).

Regarding claim 11, Constien as modified discloses a computer system (figs. 1-3), wherein said bus comprises a universal serial bus (col. 6, lines 15- 62).

Regarding claims 12, 15-16, Constien discloses a display (13 of figs. 2-3) for an electronic device having recessed cavities (col. 6, lines 11- 49) formed therein (9 of figs. 2-3; col. 2, lines 26-65; col. 4, lines 2- 46; col. 6, line 53- col. 7, line 54).

However, Constien does not specifically disclose the features of a display having a plurality of externally exposed recessed cavities into which radio and antenna modules can be removably inserted to provide a wireless communication capability for said electronic device.

On the other hand, Madsen et al, from the same field of endeavor, discloses an antenna system for a portable computer that allows communication between a portable computer and a wireless communication system. The antenna is placed in a use position when the computer is opened to facilitate wireless communication and the antenna is placed in a storage position when the computer is closed (col. 3, line 40-col. 4, line 59). Madsen et al shows in figure 5, the antenna is connected by a fastener to the base of the computer. The fastener is attached to a side wall of the recess. The fastener is an RF connector that attaches the antenna to the adaptor which provides the interface between the computer and the antenna. The antenna of the antenna system protrudes through the opening and is generally positioned perpendicular to the upper surface of the base (col. 6, line 48-col. 17, line 51; col. 9, line 35-col. 10, line 28).

Alternatively, the antenna may be constructed so that it is normally in the first position and it is attached to the computer such that it protrudes normal to the upper surface of the base when the computer is in the open position (figs. 6, 8-9; col. 10, line 50- col. 11, line 50). The radio module and antenna module can be connected via a suitable RF coaxial cable that is included within the display's casing. The display can have cavities for one or more radios and one or more antenna modules. Accordingly, the display can have a plurality of radio/antenna combinations thereby concurrently providing the electronic device with multiple wireless communication capabilities (col. 7, lines 12-51; col. 8, lines 5-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Madsen to the communication system of Constien in order to provide a portable computer having a base unit with a recess sized and configure to receive the antenna.

Regarding claim 13, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49); wherein said radio module and antenna module are flush with the outer surface of the display (col. 6, lines 36-62).

Regarding claim 14, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), wherein a radio module is electrically connected to an antenna module via a conductor contained within said display (col. 6, lines 22-31).

Regarding claim 17, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), including cavities for a plurality of radio modules and a plurality of antenna modules (col. 7, lines 9-63).

Regarding claim 18, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), wherein a radio module is electrically connected to an antenna module via a conductor contained within said display (col. 6, lines 22-31).

Regarding claim 19, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), wherein a radio module is electrically connected to a plurality of antenna modules via a conductor contained within said display (col. 6, lines 22-31).

Regarding claim 20, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), wherein said plurality of radio modules is two radio modules and said plurality of antenna modules is three antenna modules (col. 6, line 53- col. 7, line 54).

Regarding claim 21, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), including a recessed cavity for a communication hub interconnecting said radio module to said electronic device (col. 6, lines 11- 56).

Regarding claim 22, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), wherein said electronic device comprises a notebook computer (col. 6, lines 29- 49).

Regarding claim 23, Constien as modified discloses a display (13 of figs. 2-3) for an electronic device (col. 6, lines 11- 49), wherein said electronic device comprises a handheld computer (col. 6, line 36- col. 7, line 45).

(10) Response to Argument

A response to the arguments concerning the art rejections of claims 1-23, follows:

On page 10, first paragraph of the brief identified by appellant as (1). Appellant argues that the rejection of independent claim 1 as being unpatentable over Constien in view of Madsen is in error because Madsen does not teach the features of a display having an external casing with externally exposed recessed cavities for the radio and antenna modules. In addition, the antenna 32 in Madsen is in the base 20, not the display housing 18. Furthermore, Madsen does not teach a plurality of externally exposed cavities.

Issue (1):

The Examiner disagrees. In fact, Madsen teaches a portable computer that includes a display that has an external casing with externally exposed recessed cavities for the radio and antenna modules (col. 4, lines 4-13; col.7, lines 1-10 ;col. 8, lines 5-14). For instance, this case includes one or more slots (14 of fig. 1; it means that several cavities can be formed) for accepting cards such as PCMCIA cards, USB cards, Modems, LAN adapters (col. 6, lines 52-64). Furthermore, there is an adaptor that provides an interface between the computer 10 and the

antenna system 12, where the adaptor may include a printed circuit board and may provide processing such as RF signal processing and/or baseband processing (see fig. 1). In addition, the antenna system 12 is configured to be in communication with a wireless communications network, where this wireless communications network, may include wireless modems, wireless LAN, wireless Personal Area Network (PAN), cellular telephone networks, digital communication systems, etc. The wireless communication network may also include Bluetooth technology (col. 7, lines 11-51). It is clearly stated that this display in figure 1, can have cavities for one or more radios and one or more antenna modules. These radios can be coupled to a host computer via a USB hub. Accordingly, this display can have a plurality of radio/antenna combinations thereby concurrently providing the electronic device with multiple wireless communication capabilities (col. 7, lines 12-30; col. 8, lines 6-15; col. 6, lines 48-67). USB devices include keyboards, mice, joysticks, game pads, and other low-bandwidth, low-cost devices. It allows a large number of devices to be attached to a single host USB connector.

Note that the antenna 32 in figure 1 is a movable antenna. It is considered that this antenna could be in the display housing 18 (col. 3, lines 60-67; col. 4, lines 47-65; fig. 7; col. 11, lines 2-14; fig. 12, lines 20-37). In fact, given the claim language, one could even interpret the entire exterior of the portable computer as being part of the “external casing”.

Issue (2)

On page 11, first paragraph of the brief identified by appellant as (2). Appellant further argues that Madsen does not teach or suggest a display in which pluralities of externally exposed recessed cavities are formed. In addition, the display casing includes cavities for a plurality of radio modules.

However, Madsen shows in figure 1, a portable computer that includes a display that has an external casing with externally exposed recessed cavities for the radio and antenna modules (col. 4, lines 4-13; col. 7, lines 1-10; col. 8, lines 5-14). For instance, this case includes one or more slots (14 of fig. 1; it means that several cavities can be formed) for accepting cards such as PCMCIA cards, USB cards, Modems, LAN adapters (col. 6, lines 52-64). Furthermore, there is an adaptor that provides an interface between the computer 10 and the antenna system 12, where the adaptor may include a printed circuit board and may provide processing such as RF signal processing and/or baseband processing (see fig. 1). In addition, the antenna system 12 is configured to be in communication with a wireless communications network, where this wireless communications network, may include wireless modems, wireless LAN, wireless Personal Area Network (PAN), cellular telephone networks, digital communication systems, etc. The wireless communication network may also include Bluetooth technology (col. 7, lines 11-51). It is clearly stated that this display in figure 1, can have cavities for one or more radios and one or more antenna modules. These radios can be coupled to a host computer via a USB hub. Accordingly, this display can have a plurality of radio/antenna combinations thereby concurrently providing the electronic device with multiple wireless communication capabilities (col. 7, lines 12-30; col. 8, lines 6-15; col. 6, lines 48-67). It is considered that this portable laptop computer unit contains a display that has an external casing in which a radio and an antenna module are received.

Note that claim 4 contains similar limitations addressed in claim 1, and claim 15 contains similar limitations addressed in claim 12. The Examiner refers the appellant to the same rationale addressed on issues (1 and (2).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Marceau Milord/

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